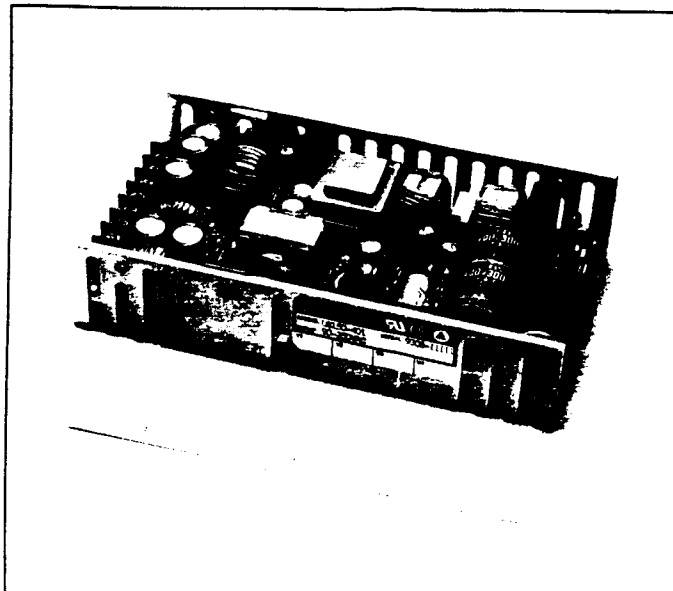


# US150 Series Universal Input 150 Watt Switchers

- 75% efficiency
- FCC & VDE class A EMI filter
- Up to 4 outputs
- Compact 6.8" x 3.8" x 1.5" size
- UL recognized, CSA and TUV approved
- Optional cover
- Available with 12VDC, 24VDC or 48VDC inputs
- Plug-in replacement for KD150



The US150 series are economical, high efficiency, open frame switchers that deliver up to 150W of continuous or 180W peak power from one to four outputs. The 90-264VAC universal input allows them to be used worldwide.

The US150 is one of the *flexibility* series. In addition to the popular models listed on this sheet, thousands of potential other modified standard models are available that include full safety agency approval and do not require any non-recurring

engineering (NRE) charge. Prototype delivery is typically just a few weeks.

*Flexibility* options include a cover. Output voltage options are given in the table below. Fully custom models are also available. Please contact the factory for details.

All US150 models are also available with 12VDC, 24VDC or 48VDC input. Please see the DP150 data sheet for details.

## Available Models

| Model Number                                              | Output | Output Voltage             | Output Current Ratings |                  |                  |                   |
|-----------------------------------------------------------|--------|----------------------------|------------------------|------------------|------------------|-------------------|
|                                                           |        |                            | Min <sup>1</sup>       | Max <sup>2</sup> | Max <sup>3</sup> | Peak <sup>4</sup> |
| US150-105                                                 | V1     | + 5V                       | 0A                     | 18A              | 25A              | 30A               |
| US150-201                                                 | V1     | + 5V                       | 3A                     | 10A              | 20A              | 20A               |
|                                                           | V4     | +12V                       | 1A                     | 4A               | 8A               | 10A               |
| US150-301                                                 | V1     | + 5V                       | 3A                     | 10A              | 20A              | 20A               |
|                                                           | V3     | -12V                       | 0A                     | 1A               | 1A               | 1A                |
|                                                           | V4     | +12V                       | 1A                     | 4A               | 8A               | 10A               |
| US150-401                                                 | V1     | + 5V                       | 3A                     | 10A              | 15A              | 20A               |
|                                                           | V2     | - 5V                       | 0A                     | 0.5A             | 1A               | 1A                |
|                                                           | V3     | -12V                       | 0A                     | 0.5A             | 1A               | 1A                |
|                                                           | V4     | +12V                       | 1A                     | 4A               | 6A               | 8A                |
| US150-404                                                 | V1     | + 5V                       | 3A                     | 10A              | 15A              | 20A               |
|                                                           | V2     | -12V                       | 0A                     | 0.5A             | 1A               | 1A                |
|                                                           | V3     | +12V                       | 0A                     | 0.5A             | 1A               | 1A                |
|                                                           | V4     | +24V                       | 1A                     | 2A               | 4A               | 5A                |
| US150-408                                                 | V1     | + 5V                       | 3A                     | 10A              | 15A              | 20A               |
|                                                           | V2     | -15V                       | 0A                     | 0.5A             | 1A               | 1A                |
|                                                           | V3     | +15V                       | 0A                     | 0.5A             | 1A               | 1A                |
|                                                           | V4     | +24V                       | 1A                     | 2A               | 4A               | 5A                |
| Modified standard flexibility output options <sup>5</sup> | V1     | ±3.3V to ±48V <sup>6</sup> | 0.1A                   |                  | 20A              |                   |
|                                                           | V2     | ±2.0V to ±48V <sup>7</sup> | 0A                     |                  | 1A               |                   |
|                                                           | V3     | ±2.0V to ±48V <sup>7</sup> | 0A                     |                  | 1A               |                   |
|                                                           | V4     | ±2.0V to ±48V <sup>7</sup> | 0A                     |                  | 8A               |                   |

### Notes:

<sup>1</sup> At least 20% of maximum output current is required to maintain stated regulation.

<sup>2</sup> Convection cooling

<sup>3</sup> Forced air cooling

<sup>4</sup> Peak output, 30 sec max

<sup>5</sup> The US150 series allows very fast *flexible* modified standard designs within these parameters without non-recurring engineering charge and while retaining safety agency approval. Please contact the factory for details.

<sup>6</sup> Can be specified in 0.1V increments

<sup>7</sup> Can be specified in 0.75V increments

# Specifications

Specifications are typical at 25°C unless otherwise designated.

| Parameter           | Limits                                                                                                              |
|---------------------|---------------------------------------------------------------------------------------------------------------------|
| <b>Input</b>        |                                                                                                                     |
| Input Voltage Range | 90–264VAC                                                                                                           |
| Input Frequency     | 47 to 440Hz                                                                                                         |
| Input Surge Current | 25A max, cold start                                                                                                 |
| Efficiency          | 75% typ at nominal line, full power                                                                                 |
| <b>Output</b>       |                                                                                                                     |
| Output Power        | 100W, natural convection cooling<br>150W, 28CFM forced air<br>180W peak                                             |
| Line Regulation     | $\pm 0.5\%$ , $V_{in}$ (min) to $V_{in}$ (max)                                                                      |
| Load Regulation     | $\pm 0.5\%$ (V1, 20% to 100% $I_o$ )<br>$\pm 5\%$ (V2-V4, 20% to 100% $I_o$ )                                       |
| Cross Regulation    | $\pm 0.5\%$ (V1, 20% to 100% $I_o$ on V2-V4)<br>$\pm 5\%$ (V2-V4, 50% to 100% $I_o$ on V1)                          |
| Noise and Ripple    | 25mV max RMS, 50mV max P-P, on V1 with full load (5V only)<br>0.5% max RMS, 1% max P-P, on V2,V3,V4, with full load |
| Overshoot           | 5% max, all outputs                                                                                                 |

| Parameter                                    | Limits                                                                                                     |
|----------------------------------------------|------------------------------------------------------------------------------------------------------------|
| <b>Output (cont'd)</b>                       |                                                                                                            |
| Transient Response                           | for 25% to 75% $I_o$ change, 5% maximum deviation, with recovery to 1% within 500 $\mu$ S                  |
| Hold-up time                                 | 10mS, nominal input, full output power                                                                     |
| Overvoltage Protection Threshold             | 130% $V_o$ , all outputs                                                                                   |
| Power foldback point                         | 120% of max rated power                                                                                    |
| <b>Environmental</b>                         |                                                                                                            |
| Operating Temperature Range (full power)     | 0°C to 50°C                                                                                                |
| Operating Temperature Range (extended range) | 0°C to 70°C Derate linearly from full power at 50°C to half power at 70°C                                  |
| Storage Temperature Range                    | -25°C to +85°C                                                                                             |
| Relative Humidity                            | 5% to 95%, non-condensing                                                                                  |
| Vibration                                    | 0.75G peak, 5Hz to 500Hz. Test three orthogonal axes at 1 octave/min, 5 min dwell at four major resonances |
| MTBF                                         | 88,000 hours calculated per MIL-Std 217E, 50°C ambient                                                     |

